

Appendix A



USFWS

Umbagog Lake

Species of Conservation Concern at Canaan Valley National Wildlife Refuge

Species of Conservation Concern at Canaan Valley National Wildlife Refuge

Table A.1. Resources of Concern for Canaan Valley NWR (See table A.2 for bird species)

Species / Community	State Rank	Global Rank	Fed T&E	WW WCAP	USFS
Plant communities					
Balsam Fir - Black Ash Swamp	S1	G1		H	
Balsam Fir - Oatgrass Swamp	S2	G2		H	
Balsam Fir - Winterberry Swamp	S1	G2		H	
Quaking Aspen Swamp	SNR	GNR		H	
Red Spruce - Heath Peat Woodland	S2	G2G3		H	
Red Spruce - Hemlock - Rhododendron Swamp	S2	G2?		H	
Red Spruce - Yellow Birch - Mannagrass Swamp	S2S3	G3		H	
American Bur-reed Marsh	S2	G2G3		H	
Beaked Sedge Fen	S2	G4G5		M	
Bluejoint Grass Wet Meadow	S2	G24G5		H	
Cottongrass Fen	S3	G3		M	
Goldenrod Wet Meadow	S3	GNR		H	
Lake Sedge Fen	S1	G4G5		M	
Nodding Sedge – Prickly Bog Sedge Seep	S2	G2		M	
Rice Cutgrass Marsh	S3	GNR		H	
Silvery Sedge Fen	S2	GNR		M	
Softstem Bulrush Marsh	S2	GNR		H	
Star Sedge Fen	S2	G2?		M	
Threeway Sedge Fen	S3	GNR		H	
Tussock Sedge Wet Meadow	S3	G4G5		H	
Woolgrass Wet Meadow	S3	GNR		H	
Blueberry - Bracken Fern Shrub Swamp	S3	GNR		H	
Bushy St. John's-wort Shrub Swamp	S3	GNR		H	
Chokeberry - Wild Raisin Shrub Peatland	S3	GNR		H	
Cranberry - Beakrush Peatland	S2	G2		H	
Meadowsweet Shrub Swamp	S3	GNR		H	
Silky Willow Shrub Swamp	S3	GNR		H	
Speckled Alder - Arrowwood Shrub Swamp	S3	GNR		H	
Speckled Alder Shrub Swamp	S3	G5		H	
Steeplebush Shrub Swamp	S2	GNR		H	

Species of Conservation Concern at Canaan Valley National Wildlife Refuge

Species / Community	State Rank	Global Rank	Fed T&E	WV WCAP	USFS
Red Spruce - Yellow birch / mountain holly / Bazzania / Hypnum Forest	new type (S2)	NEW TYPE		H	
Red Spruce - Hemlock - Red Maple - Black birch Forest	(S2)	GNR		H	
Red Spruce / Mountain laurel - menziesia Rocky woodland	(S1)	G3G5		H	
Rough Sedge Seep	S3	G3		H	
Plants					
Abies balsamea (balsam fir)	S3	G5			
Betula papyrifera (paper birch)	S2	G5			
Botrychium lanceolatum var. angustisegmentum (lanceleaf grapefern)	S1	G5T4			FH (RFSS)
Botrychium matricariifolium ** (chamomile grapefern)	S2	G5			
Botrychium oneidense (bluntlobe grapefern)	S1	G4			F1 (RFSS)
Carex aestivalis (summer sedge)	S2	G4			
Carex atherodes (wheat sedge)	S1	G5			
Carex bromoides (brome-like sedge)	S2	G5			
Carex canescens (silvery sedge)	S3	G5			
Carex comosa (longhair sedge)	S2	G5			
Carex emoryi (Emory's sedge)	S1	G5			
Carex lacustris (hairy sedge)	S2	G5			
Carex lasiocarpa (woollyfruit sedge)	S1	G5			
Carex leptoneura (nerveless woodland sedge)	S1	G4			
Carex normalis (larger straw sedge)	S2	G5			
Carex projecta (necklace sedge)	S1	G5			
Carex suberecta (prairie straw sedge)	S1	G4			
Carex utriculata (beaked sedge)	S2	G5			
Carex vesicaria (inflated sedge)	S2	G5			
Coptis trifolia (goldthread)	S2	G5			
Cornus canadensis (bunchberry)	S3	G5			F3
Cuscuta rostrata (beaked dodder)	S2	G4			
Cypripedium reginae ** (showy lady's slipper)	S1	G4			F1 (RFSS)
Dalibarda repens (star violet)	S3	G5			
Drosera rotundifolia (roundleaved sundew)	S3	G5			
Eleocharis palustris (creeping spikerush)	S1	G5			
Equisetum fluviatile (water horsetail)	S2	G5			

Species / Community	State Rank	Global Rank	Fed T&E	WV WCAP	USFS
<i>Equisetum sylvaticum</i> (woodland horsetail)	S1	G5			
<i>Eupatorium pilosum</i> (vervain thoroughwort)	S2	G5			
<i>Euphorbia purpurea</i> (glade spurge)	S2	G3			F1 (RFSS)
<i>Fraxinus nigra</i> (black ash)	S2S3	G5			
<i>Gaultheria hispida</i> (creeping snowberry)	S2S3	G5			
<i>Geum aleppicum</i> ** (yellow avens)	S1	G5			
<i>Geum rivale</i> (purple avens)	S1	G5			
<i>Glyceria grandis</i> var. <i>grandis</i> (American mannagrass)	S2	G5			
<i>Glyceria laxa</i> (limp mannagrass)	S1	G5			
<i>Gymnocarpium appalachianum</i> ** (Appalachian oak fern)	S1	G3			F1 (RFSS)
<i>Hasteola suaveolens</i> (sweet-scented Indian plantain)	S2	G3G4			F1 (RFSS)
<i>Juncus articulatus</i> (jointed rush)	S2	G5			
<i>Juncus biflorus</i> (grass-leaved rush)	S1	G5			
<i>Juncus filiformis</i> (thread rush)	S2	G5			F1 (RFSS)
<i>Listera smallii</i> ** (Small's twayblade)	S2	G4			
<i>Lonicera canadensis</i> ** (American fly-honeysuckle)	S2	G5			
<i>Luzula bulbosa</i> (bulbous woodrush)	S1	G5			
<i>Lycopodiella inundata</i> (bog clubmoss)	S2	G5			
<i>Lycopodium lagopus</i> (one-cone groundpine)	S1	G5			
<i>Lygodium palmatum</i> (climbing fern)	S3	G4			
<i>Najas gracillima</i> (slender water nymph)	S2	G5			
<i>Oenothera pilosella</i> ssp. <i>Pilosella</i> ** (evening primrose)	S2	G5			
<i>Ophioglossum engelmannii</i> ** (limestone adder's-tongue fern)	S1	G5			
<i>Pedicularis lanceolata</i> (swamp lousewort)	S2	G5			
<i>Pogonia ophioglossoides</i> ** (rose pogonia)	S2	G5			
<i>Polemonium vanbruntiae</i> (Jacob's-ladder)	S2	G3			F1 (RFSS)
<i>Rhamnus alnifolia</i> (alder-leaf buckthorn)	S1	G5			
<i>Rubus pubescens</i> (dwarf raspberry)	SH	G5			
<i>Sagittaria calycina</i> var. <i>calycina</i> (long-lobe arrowhead)	S2	G5			
<i>Salix discolor</i> (glaucous willow)	S2	G5			
<i>Saxifraga pensylvanica</i> (Pennsylvania saxifrage)	S2	G5			F1
<i>Schizachne purpurascens</i> ** (false melic)	S1	G5			
<i>Schoenoplectus purshianus</i> (weakstalk bulrush)	S3	G4G5			

Species / Community	State Rank	Global Rank	Fed T&E	WV WCAP	USFS
<i>Scirpus atrovirens</i> (blackgirdle bulrush)	S3	G5			
<i>Scirpus microcarpus</i> (panicled bulrush)	S3	G5			
<i>Sparganium angustifolium</i> (branchy bur-reed)	S1	G4			
<i>Stachys aspera</i> (gritty hedge-nettle)	S1	G4			
<i>Taxus canadensis</i> ** (Canada yew)	S2S3	G5			FP
<i>Thelypteris simulata</i> (bog fern)	S1	G4			
<i>Torreyochloa pallida</i> var. <i>fernaldii</i> (pale false mannagrass)	S2	G5			
<i>Vaccinium macrocarpon</i> (large cranberry)	S2	G4			
<i>Vaccinium oxycoccos</i> (small cranberry)	S2	G5			
<i>Veronica scutellata</i> (marsh speedwell)	S1	G5			
<i>Viburnum lentago</i> (nannyberry)	S1S2	G5			
<i>Viburnum opulus</i> var. <i>americanum</i> (cranberrybush)	S1	G5			
<i>Viola appalachensis</i> (Appalachian blue violet)	S1	G3			F2 (RFSS)
<i>Zigadenus leimanthoides</i> (bog camas)	S2	G4			
Birds (see separate table)					
Amphibians					
Cheat mountain salamander	S2	G2	T	Y	F2
Mammals					
West Virginia northern flying squirrel	S2	G5T2		Y	F2
Star-nosed mole	S2	G5		Y	F2
Fisher	S3	G5		Y	F3
Southern rock vole	S2	T3		Y	F2 (RFSS)
Eastern small-footed bat	S1	G3		Y	F1 (RFSS)
Indiana bat	S1	G2	E	Y	F1
Appalachian Cottontail	S3	G5			
Allegheny woodrat **	S3	G3		Y	F3 (RFSS)
Southern water shrew **	S1	G5		Y	F1 (RFSS)
Southern bog lemming	S2	G5		Y	F1
Meadow jumping mouse	S3	G5		Y	F2
Southern pygmy shrew	S2S3	G5T4		Y	F1
Reptiles					
Timber rattlesnake**	S3	G4		Y	F3 (RFSS)
Northern coal skink**	S2	T5			F1
Mountain earth snake **	S1	G5T3T4		Y	F1

Species / Community	State Rank	Global Rank	Fed T&E	WV WCAP	USFS
Butterflies					
Harris's checkerspot	S2	G4		Y	F1
Pink-edged sulfur	S1	T1?		Y	F1
Atlantis fritillary	S3	G5		Y	F3
Crayfish					
Crayfish (<i>Cambarus monongalensis</i>)	S3	G5		Y	
Odonates					
Sweetflag Spreadwing (<i>Lestes forcipatus</i>)	SH	G5			
Comet Darner (<i>Anax longipes</i>)	S1	G5		Y	
Hudsonian Whiteface (<i>Leucorrhinia hudsonica</i>)	S1	G5		Y	
Chalk-fronted Corporal (<i>Ladona julia</i>)	S2	G5		Y	
Delta-spotted Spiketail (<i>Cordulegaster diastatops</i>)	S2	G5		Y	
Swamp Spreadwing (<i>Lestes vigilax</i>)	S2	G5		Y	
White-faced Meadowhawk (<i>Sympetrum obtrusum</i>)	S2	G5		Y	
Northern Bluet (<i>Enallagma annexum</i>)	S2	G5			
Green-striped Darner (<i>Aeshna verticalis</i>)	S2	G5			
Northern Pygmy Clubtail (<i>Lanthus parvulus</i>)	S2	G4			
Southern Spreadwing (<i>Lestes d.australis</i>)	S2S3	G5T5			
Band-winged Meadowhawk (<i>Sympetrum semicinctum</i>)	S3	G5		Y	
Fish					
Redside dace (<i>Clinostomus elongatus</i>)	S1S2	G4		Y	
Brook trout (<i>Salvelinus fontinalis</i>)	S4	G5		Y	

**: species known or expected to occur in Canaan Valley, but have not yet been documented from CVNWR.

WV WCAP: plant communities were listed in WCAP table 4F-Habitats-30, based on their Conservation Priority.

H: high conservation priority

M: medium conservation priority

USFS: from Monongahela Forest Plan 2006, Table D-1, Species chosen for detailed fine-filter analysis for the Monongahela National Forest plan revision terrestrial species viability evaluation.

F: abundance rank for the Monongahela National Forest

RFSS: Regional Forester's sensitive species for the Monongahela National Forest

Table A.2 Resource of Concern for Canaan Valley NWR-Migratory Birds

Common Name	Primary Habitat (from PIF Continental Plan)	USFWS BCC 2008 Region 5	PIF Area 12	Draft BCR 28 (BCR Rule)	Global Rank	State NHP Rank (Bold = WWWCAP SGNC)	Migratory Species of Concern in Northern BCR's			
							BCR 8	BCR 12	BCR 13	BCR 14
Bay-breasted warbler	coniferous forest	X			G5					x
Cape May warbler	coniferous forest				G5			x		x
Northern saw-whet Owl	coniferous forest			f	G5	S2B, S3N				
Pine Siskin	coniferous forest				G5	S1B, S4N				
Red Crossbill	coniferous forest				G5	S1B				
Black-and-white Warbler	deciduous forest			f	G5					
Black-billed Cuckoo	deciduous forest			b	G5	S3B			x	
Brown Creeper	deciduous forest				G5	S3B, S4N				
Cerulean Warbler	deciduous forest	X	1a	a	G4	S4B		x	x	
Cooper's Hawk	deciduous forest				G5	S3B, S4N				
Eastern Wood Pewee	deciduous forest		2a	f	G5	S5B				
Hooded Warbler	deciduous forest		2b	d	G5					
Louisiana Waterthrush	deciduous forest		2b	d	G5	S5B				
Northern Parula	deciduous forest		2a		G5					
Northern Waterthrush	deciduous forest				G5	S2B				
Red-shouldered Hawk	deciduous forest				G5					
Rusty Blackbird	deciduous forest	X			G4					
Scarlet Tanager	deciduous forest		2b		G5					
Sharp-shinned Hawk	deciduous forest				G5	S3B, S4N				
Worm-eating Warbler	deciduous forest	X	1a	c	G5	S5B				
Yellow-throated Warbler	deciduous forest			i	G5					
Bobolink	grassland				G5	S2B				
Clay-colored Sparrow	grassland				G5	S1B				
Eastern Meadowlark	grassland			f	G5					
Grasshopper Sparrow	grassland		2c		G5	S3B				
Henslow's Sparrow	grassland	X	1b	a	G4	S1B		x	x	
Northern Harrier	grassland				G5	S1B, S3N				
Sedge Wren	grassland	X	2c		G5	S1B				
Short-eared owl	grassland			X	G5	S1B, S2N				
Blackburnian warbler	mixed forest		2c	f	G5	S3B				
Black-throated Blue Warbler	mixed forest		2c	X	G5			x		
Broad-winged Hawk	mixed forest			i	G5					

Common Name	Primary Habitat (from PIF Continental Plan)	USFWS BCC 2008 Region 5	PIF Area 12	Draft BCR 28 (BCR Rule)	Global Rank	State NHP Rank (Bold = WWWCAP SGNC)	Migratory Species of Concern in Northern BCR's			
							BCR 8	BCR 12	BCR 13	BCR 14
Canada warbler	mixed forest	X	1a	c	G5			x	x	x
Downy Woodpecker	mixed forest			i	G5					
Nashville Warbler	mixed forest			X	G5	S1B				
Northern Goshawk	mixed forest			X	G5	S1B, S1N				
Ruffed Grouse	mixed forest			f	G5					
Swainson's Thrush	mixed forest				G5	S1B				
Wood Thrush	mixed forest	X	1a	c	G5	S5B		x		x
Yellow-bellied Sapsucker	mixed forest			X	G5	S1B, S3N				
Yellow-rumped Warbler	mixed forest				G5	S3B, S3N				
Belted Kingfisher	Riparian			i	G5					
Alder Flycatcher	shrub/successional			X	G5	S3B, S4N				
American Woodcock	shrub/successional		1b	X	G5	S4B, S4N				
Barn Owl	shrub/successional				G5	S1B, S1N				
Brown Thrasher	shrub/successional		2a	X	G5					
Eastern Towhee	shrub/successional		2a	f	G5					
Field Sparrow	shrub/successional		2a	b	G5	S4B, S4N				
Golden-winged Warbler	shrub/successional	X	1a	a	G4	S2B		x	x	
Indigo Bunting	shrub/successional		2a	i	G5					
Migrant loggerhead Shrike	shrub/successional		2c	X	G5	S1B, S2N				
Northern Bobwhite	shrub/successional				G5	S3B, S3N				
Song Sparrow	shrub/successional			i	G5					
Vesper Sparrow	shrub/successional			X	G5	S3B, S3N	x			
Whip-poor-will	shrub/successional	X	2a	b	G5	S3B			x	
White-throated Sparrow	shrub/successional				G5					
Willow Flycatcher	shrub/successional		1b	J	G5	S4B				
American Bittern	wetland	X			G4	S1B, S1N				
American Black Duck	wetland		1b		G5	S2B, S4N				
Bald Eagle	wetland				G5	S2B, S3N				
Solitary Sandpiper	Wetland	X			G5					
Great Blue Heron	wetland				G5	S2B, S4N				
Green-winged Teal	wetland				G5	SHB, S2N				
Hooded Merganser	wetland				G5	S1B, S4N				

Common Name	Primary Habitat (from PIF Continental Plan)	USFWS BCC 2008 Region 5	PIF Area 12	Draft BCR 28 (BCR Rule)	Global Rank	State NHP Rank (Bold = WVWVAP SGNC)	Migratory Species of Concern in Northern BCR's			
							BCR 8	BCR 12	BCR 13	BCR 14
Marsh Wren	wetland				G5	S1B				
Osprey	wetland				G5	S2B, S2N				
Pied-billed Grebe	wetland	X			G5	S2B, S4N				
Sora	wetland				G5	S1B, S1N				
Spotted Sandpiper	wetland				G5	S3B				
Virginia Rail	wetland				G5	S1B, S1N				
Wilson's Snipe	wetland				G5	S1B, S1N				
Blue-gray Gnatcatcher	wetland - forested			i	G5					
Black Vulture					G5	S3B, S4N				
Chimney Swift				d	G5					
Peregrine Falcon				X	G4	S1B, S2N				

Table A-3. Additional migratory birds comprising >1% of all captures at AFBMO not listed in any plan

SPECIES	PRIMARY HABITAT	SEASON	%OF TOTAL CAPTURES AFMBO
Ovenbird	deciduous forest	B,M	1.91%
Red-eyed vireo	deciduous forest	B,M	1.13%
Blue Jay	deciduous forest	B,M	1.93%
Hermit Thrush	deciduous forest	B	6.30%
Blackpoll warbler	coniferous forest	M	12.56%
Dark-eyed Junco	coniferous forest	B,M	3.04%
Black-throated Green Warbler	mixed forest	B,M	7.42%
Tennessee Warbler	mixed forest	M	10.74%
Golden-crowned Kinglet	mixed forest	M,B	2.88%
Magnolia Warbler	mixed forest	M,B	4.19%
Ruby-crowned Kinglet	mixed forest	M	1.76%
Common Yellowthroat	wetland	B	2.55%

Information used to compile the bird list for this section included an evaluation of the State, Federal and PIF lists which rank birds of concern. Birds known to occur on the refuge that are listed in the Species of Concern list had to meet at least one of the following criteria:

- Appear on any of the local planning documents as a species of concern (Monongahela National Forest Plan and the WVWVAP)
- Appear on the USFWS Region 5 Birds of Conservation Concern List (2008)

- Appear on a PIF list either as a species of concern in Physiographic Area 12 or within (Draft) BCR 28.
- Appear on other BCR lists within the eastern flyway north of WV with documented occurrences during migration.
- Appear on PIF Continental Concern lists with documented occurrences during migration.

Many of the species are listed in several categories and ranking lists for species of concern while others are found in only one category. Important was the refuge's decision to evaluate the potential importance of migration habitat to those species of concern listed in BCR's to the north of West Virginia. Information from the Allegheny Front Bird Migration Observatory (AFBMO) was used to evaluate the abundance of migrating birds which fell into northern BCR's species of conservation concern.

Sources:

Refuge Status (Season of primary use of refuge habitats) B=breeding; M=migration; W=wintering (Refuge and local Data)

USFWSBCC: U.S. Fish and Wildlife Service Birds of Conservation Concern, Region 5 (USFWS 2008)

PIF – 12 : Partners in Flight priority breeding species for physiographic area 12 (Partners In Flight 2003).

Draft BCR 28: Partners in Flight priority breeding species for BCR 28 (Appalachian Mountains).

State NHP Rank: WVDNR 2007 (BOLD = Species in Greatest Need of Conservation –SGNC – WVWCAP 2006)

Allegheny Front Bird Migration Observatory (AFBMO) Percent of Total Capture (1958 - 2006) (% of # of captures)

Species of Continental Importance in Eastern Forest Avifaunal Biomes (from PIF Landbird Continental Plan 2004)

BCR Rule Definitions

Priority Tier	Continental Concern	BCR Responsibility	BCR Concern	New Rule
Highest	HIGH	HIGH or MOD	HIGH	a.
Concern columns both High, Responsibility at least Moderate				
High	MODERATE	HIGH or MOD	HIGH	b
	HIGH	HIGH or MOD	MODERATE	c
	MODERATE	HIGH	MODERATE	d
One or Two columns High, the other(s) Moderate, none Low				
Medium	HIGH or MOD	LOW *	HIGH	e
	LOW	HIGH or MOD	HIGH	f
	HIGH	LOW *	MODERATE	g
	MODERATE	MODERATE	MODERATE	h
	LOW	HIGH	MODERATE	i
	HIGH	HIGH or MOD	LOW	j
	MODERATE	HIGH	LOW	k
(stewardship)	LOW	HIGH **	LOW	l

Partners In Flight Ranking Definitions:

Partners In Flight Priority Species Pool Definitions

Tier I. High Continental Priority

Species on the *PIF Continental Watch List*, which are typically of conservation concern throughout their range. These are species showing high vulnerability in a number of factors, expressed as any combination of high global parameter scores, with AI ≥ 2 (so that species without manageable populations in the region are omitted). High level conservation attention warranted.

Tier IA. High Continental Concern + High Regional Responsibility

Species for which this region shares in major conservation responsibility; i.e., conservation in this region is critical to the overall health of this species. These species are on the *PIF Continental Concern List* with AI of 3 – 5 for this region, or a high percent population (above threshold in IIB).

Tier IB. High Continental Concern + Low Regional Responsibility

Species for which this region can contribute to rangewide conservation objectives where the species occurs. Species on the *PIF Continental Concern List* with AI of 2 for this region.

Tier II. High Regional Priority

Species that are of moderate continental priority (not on *Continental Watch List*), but are important to consider for conservation within a region because of various combinations of high parameter scores, as defined below; total of 7 parameter scores = ≥ 19 .

Tier IIA. High Regional Concern

Species that are experiencing declines in the core of their range and that require immediate conservation action to reverse or stabilize trends. These are species with a combination of high area importance and declining (or unknown) population trend; total of 7 parameters ≥ 19 , with AI + PT ≥ 8 .

Tier IIB. High Regional Responsibility

Species for which this region shares in the responsibility for long-term conservation, even if they are not currently declining or threatened. These are species of moderate overall priority with a disproportionately high percentage of their total population in the region; total of 7 parameters ≥ 19 , with AI = 5 or % population > threshold (see Appendix C).

Tier IIC. High Regional Threats

Species of moderate overall priority that are uncommon in a region and whose remaining populations are threatened, usually because of extreme threats to sensitive habitats. These are species with high breeding threats scores within the region (or in combination with high nonbreeding threats outside the region); total of 7 parameters ≥ 19 with TB + TN > 6, or local TB or TN = 5.

Tier III. Additional Federally Listed

Species listed under the U.S. Endangered Species Act receive conservation attention wherever they occur.

Tier IV. Additional State Listed

Species on state or provincial endangered, threatened, or special concern lists that did not meet any of above criteria. These often represent locally rare or peripheral populations.

Tier V. Additional Stewardship Responsibility

Representative or characteristic species for which the region supports a disproportionately high percentage of the world population (see Appendix), but which did not meet any of the above criteria. Includes moderate- and low-scoring species for which the region has long-term stewardship responsibility, even if these species are not of immediate conservation concern.

Tier VI. Local Concern

Species of justifiable local concern or interest. May represent a geographically variable population or be representative of a specific habitat or conservation concern.

GLOBAL RANK	
G1	Five or fewer documented occurrences, or very few remaining individuals globally. Extremely rare and critically imperiled.
G2	Six to 20 documented occurrences, or few remaining individuals globally. Very rare and imperiled.
G3	Twenty-one to 100 documented occurrences. Either very rare and local throughout its range or found locally in a restricted range.
G4	Common and apparently secure globally, though it may be rare in parts of its range, especially at the periphery.
G5	Very common and demonstrably secure, though it may be rare in parts of its range, especially at the periphery.
GH	Historical. May be rediscovered.
GX	Believed extirpated. Little likelihood of rediscovery.
T#	Rank of subspecies or variety.
STATE RANK	
S1	Five or fewer documented occurrences or very few remaining individuals within the state. Extremely rare and critically imperiled.
S2	Six to 20 documented occurrences, or few remaining individuals within the state. Very rare and imperiled.
S3	Twenty-one to 100 documented occurrences.
S4	Common and apparently secure with more than 100 occurrences.
S5	Very common and demonstrably secure.
SH	Historical. Species which have not been relocated within the last 20 years. May be rediscovered.
SX	Believed extirpated. Little likelihood of rediscovery.